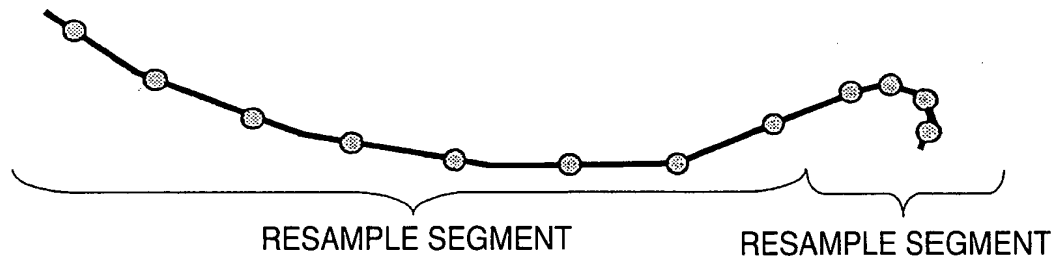
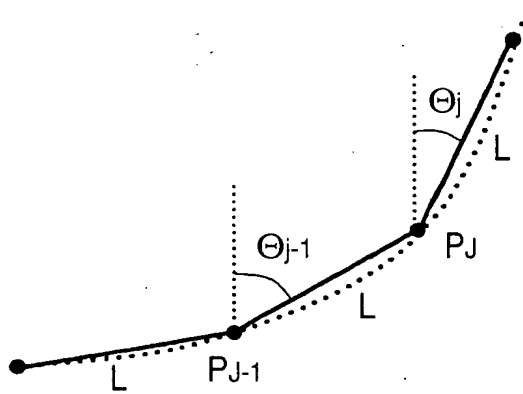


FIG. 1



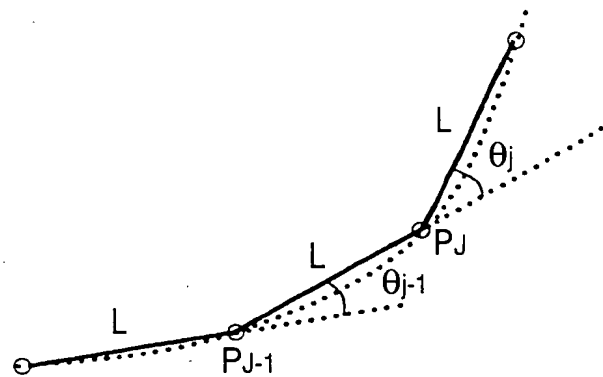
2/14

FIG. 2A



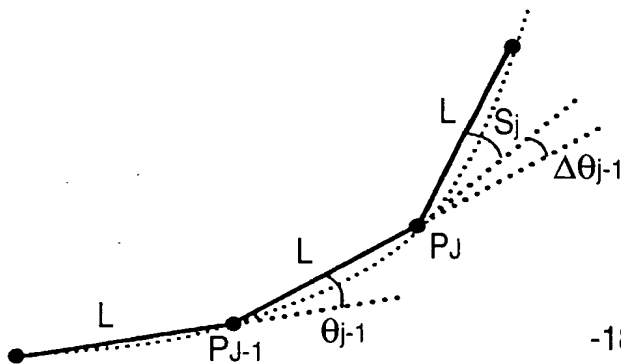
RESAMPLE PATH DATA AT  
EQUAL DISTANCE L

FIG. 2B



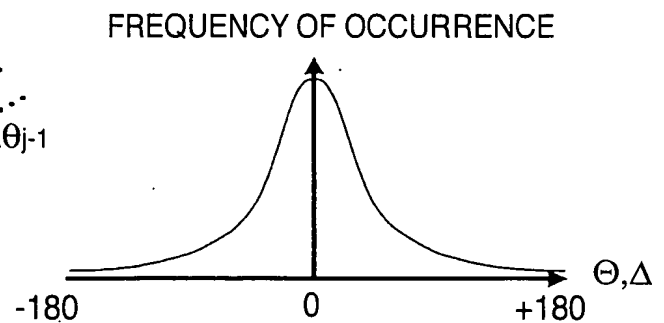
REPRESENT ANGLE COMPONENT  
BY DEVIATION ANGLE

FIG. 2C



REPRESENT DEVIATION ANGLE BY  
STATISTICAL PREDICTION VALUE DIFFERENCE

FIG. 2D



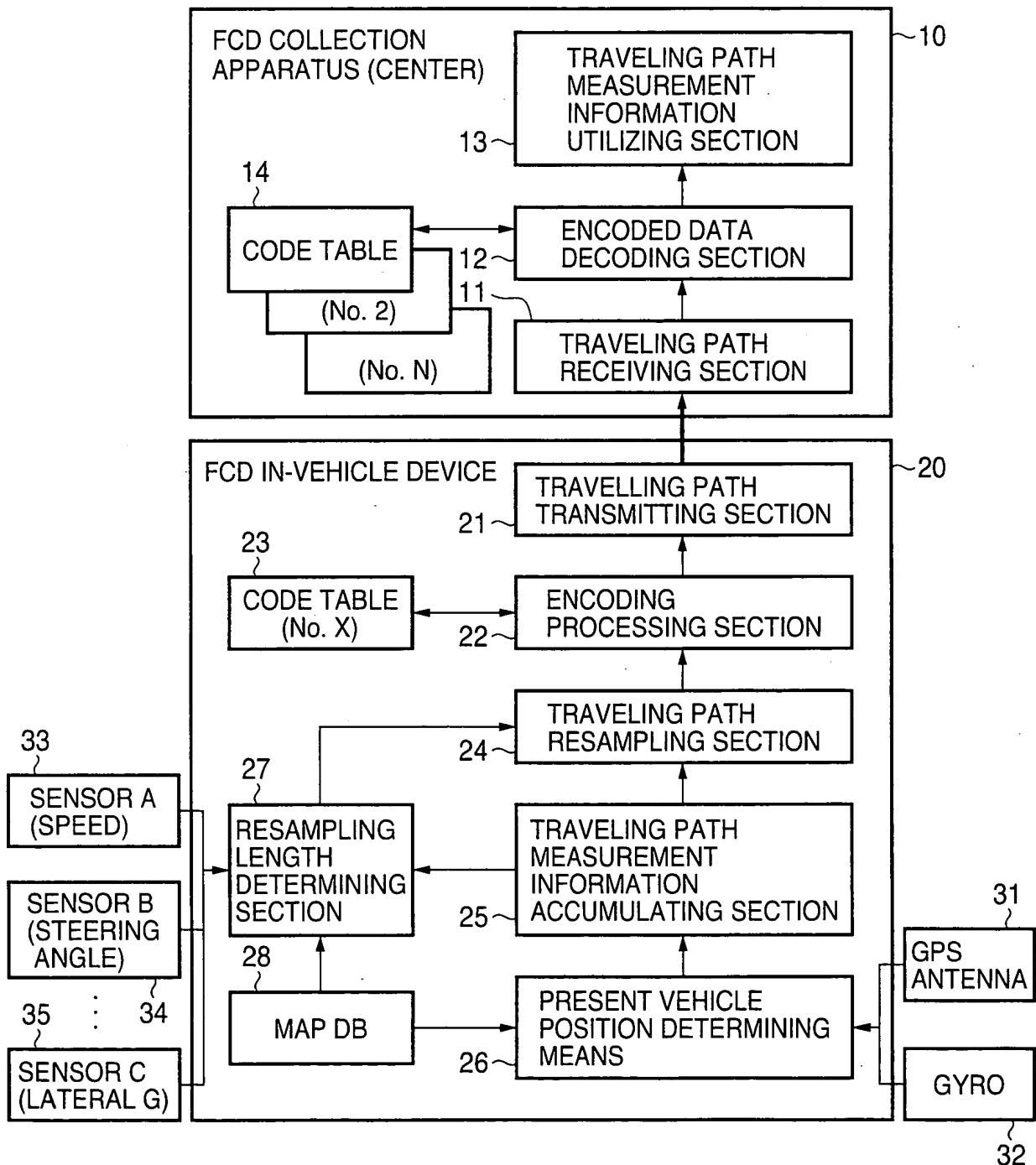
3/14

FIG. 3

| SPECIAL CODE               | CODE                     | ADDITIONAL BIT                              |
|----------------------------|--------------------------|---|
| SEGMENT LENGTH CHANGE CODE | 101                      | 3(40/80/160/.../5120m                       |
| EOD CODE                   | 1100                     | 0   |
| INPUT VALUE                | CODE                     | ADDITIONAL BIT                              |
| RUN LENGTH                 | $\Delta\theta$ VALUE(° ) | RANGE OF $\Delta\theta$ VALUE (° )          |
| 0                          | 0                        | 0<br>-1~+1                                  |
| 5                          | 100                      | 0<br>"                                      |
| 10                         | 1101                     | 0<br>"                                      |
| 0                          | 1110                     | <sup>1</sup><br>(FOR IDENTIFYING±)<br>±2~4  |
| 0                          | 111100                   | <sup>1</sup><br>(FOR IDENTIFYING±)<br>±5~7  |
| 0                          | 111101                   | <sup>1</sup><br>(FOR IDENTIFYING±)<br>±8~10 |
| }                          |                          |   |

4/14

FIG. 4



5/14

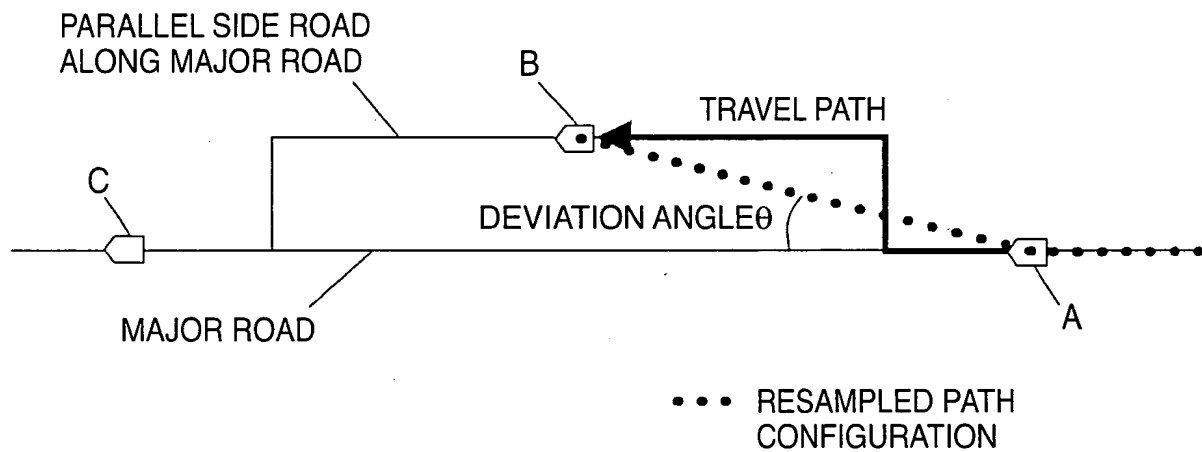
## FIG. 5

### EXAMPLE OF TRANSMISSION DATA FORMAT

|   |
|---|
| VEHICLE ID INFORMATION  |
| IDENTIFICATION NUMBER OF THE CODE TABLE IN USE  |
| ENCODING METHOD INSTRUCTION NUMBER  |
| NUMBER OF SAMPLING LOCATION<br>POINTS OF POSITIONAL INFORMATION   |
| ABSOLUTE LONGITUDE AND LATITUDE OF<br>THE LAST MEASURED LOCATION  |
| ABSOLUTE ORIENTATION OF BETWEEN LAST<br>LOCATION → PREVIOUS LOCATION  |
| ENCODED DATA OF TRAVELING PATH<br>(INCLUDING BIT STRING OF ENCODED $\theta$ , $\Delta\theta_j$ ;<br>AND SEGMENT LENGTH CHANGE CODE) |

6/14

FIG. 6



7/14

FIG. 7A

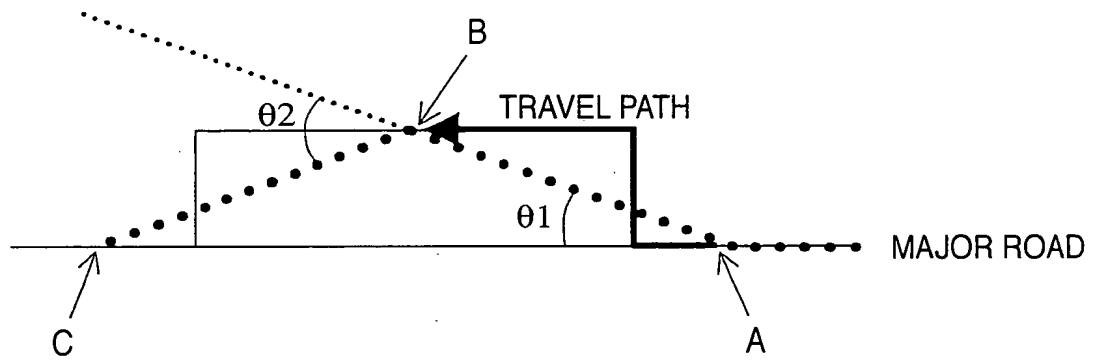
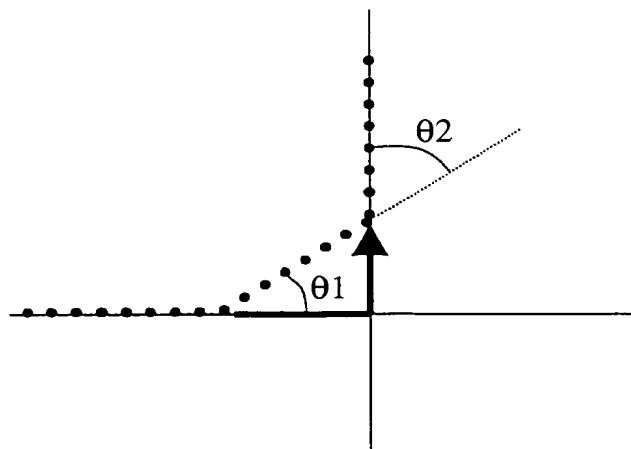


FIG. 7B



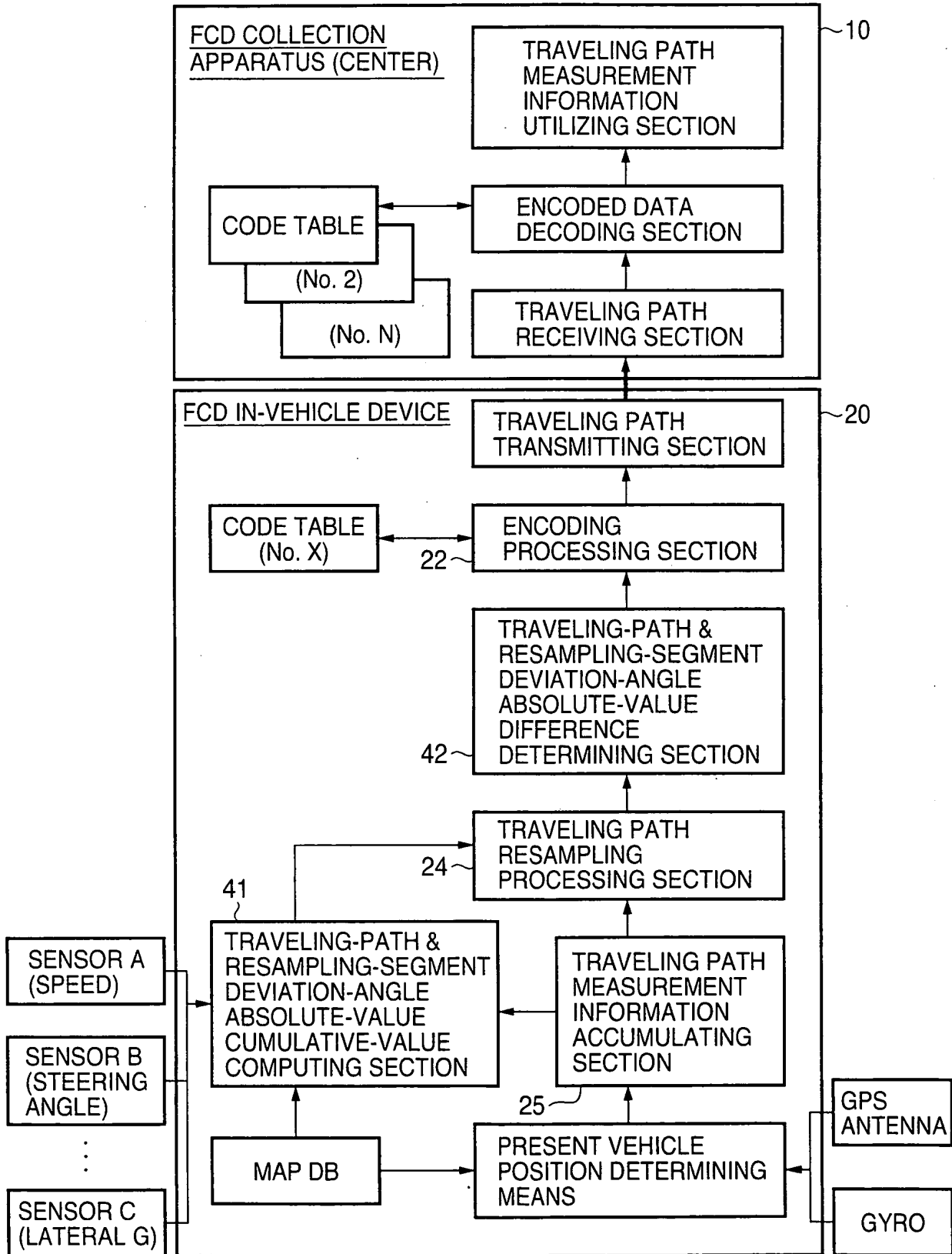
8/14

| SPECIAL CODE   | CODE    | ADDITIONAL BIT  |
|--|---------|---|
| SEGMENT LENGTH CHANGE CODE   | 101     | 3 (40/80/160/.../5120m)   |
| CODE INDICATING THAT A<br>DIFFERENCE HAS OCCURRED<br>BETWEEN DEVIATION<br>ANGLE OF RESAMPLED TRAVELING<br>PATH SHAPE AND CUMULATIVE<br>VALUE OF DEVIATION ANGLE<br>ABSOLUTE VALUES | 111110  | 9 (0~512°)<br>CUMULATIVE VALUE OF<br>DEVIATION ANGLE ABSOLUTE<br>VALUES OF TRAVELING PATH |
| EOD CODE   | 1100    | 0   |
| INPUT VALUE  | CODE    | ADDITIONAL BIT  |
| RUN LENGTH   | θ VALUE | RANGE OF<br>θ VALUE<br>(°)  |
| 0  | 0       | -1~±1   |
| 5  | 0       | 〃   |
| 10   | 0       | 〃   |
| 0  | ±3      | 1<br>(FOR IDENTIFYING ±)  |
| 0  | ±6      | 1<br>(FOR IDENTIFYING ±)  |
| 0  | ±9      | 1<br>(FOR IDENTIFYING ±)  |
| }  |         |   |

FIG. 8

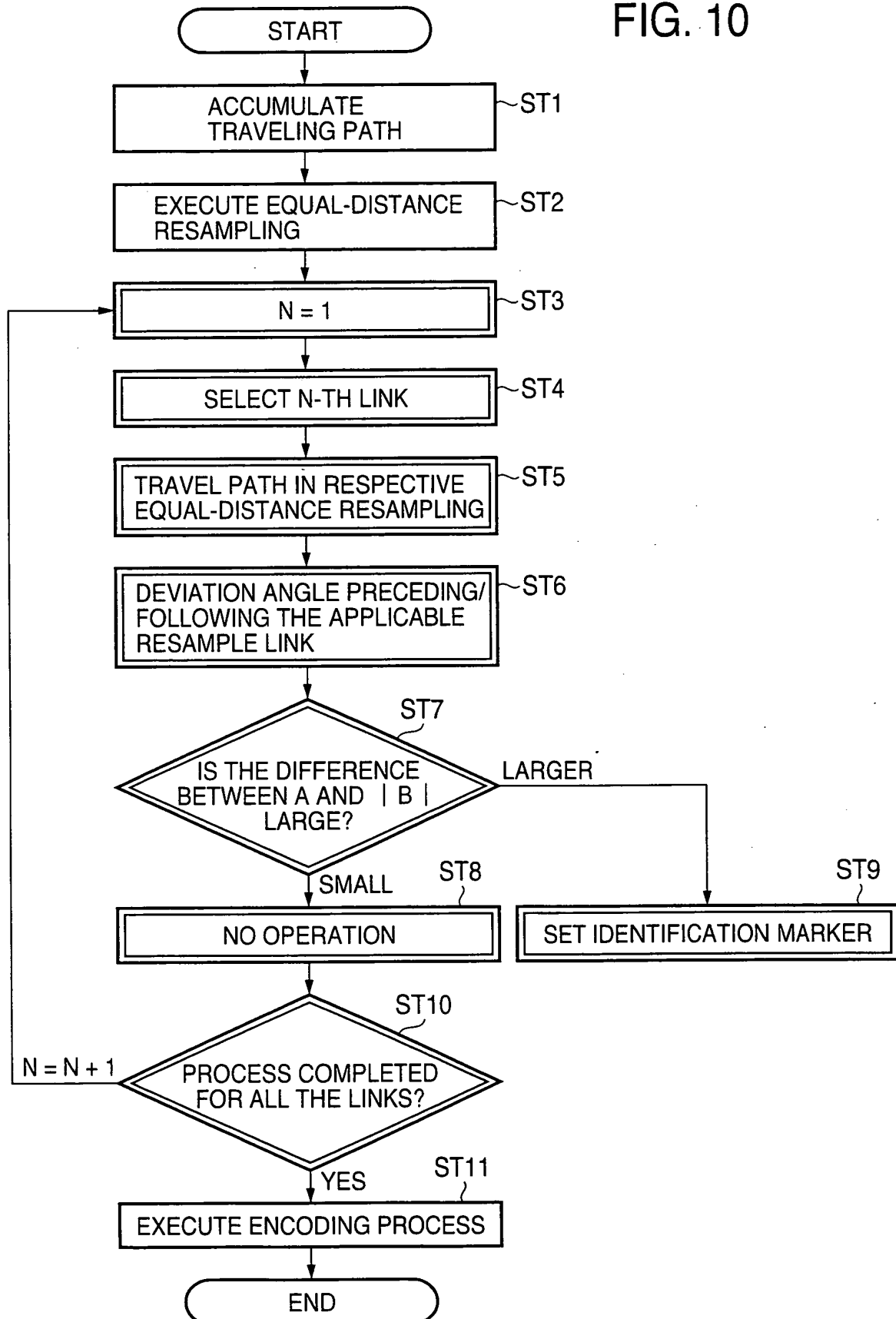


9/14  
 FIG. 9



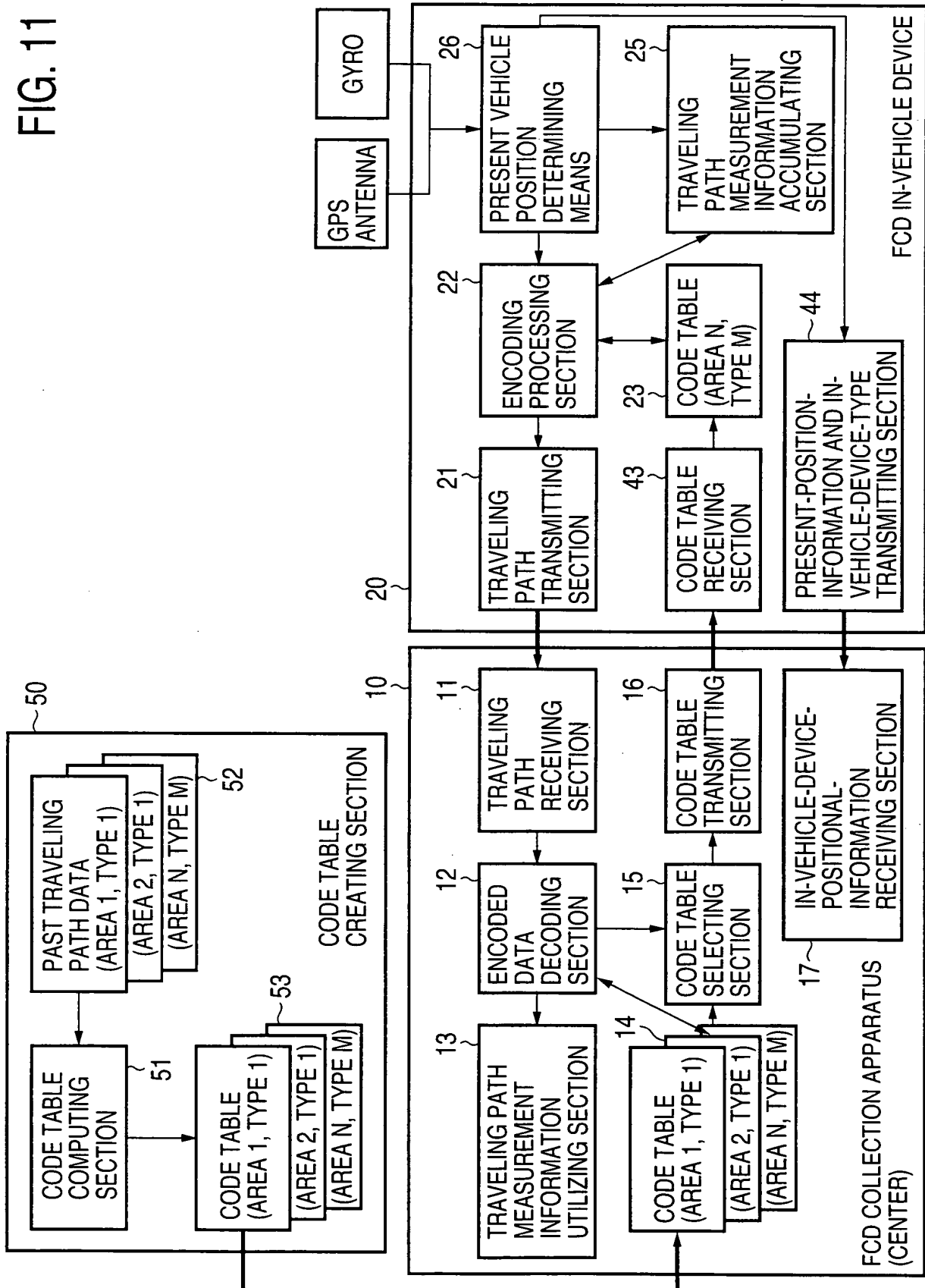
10/14

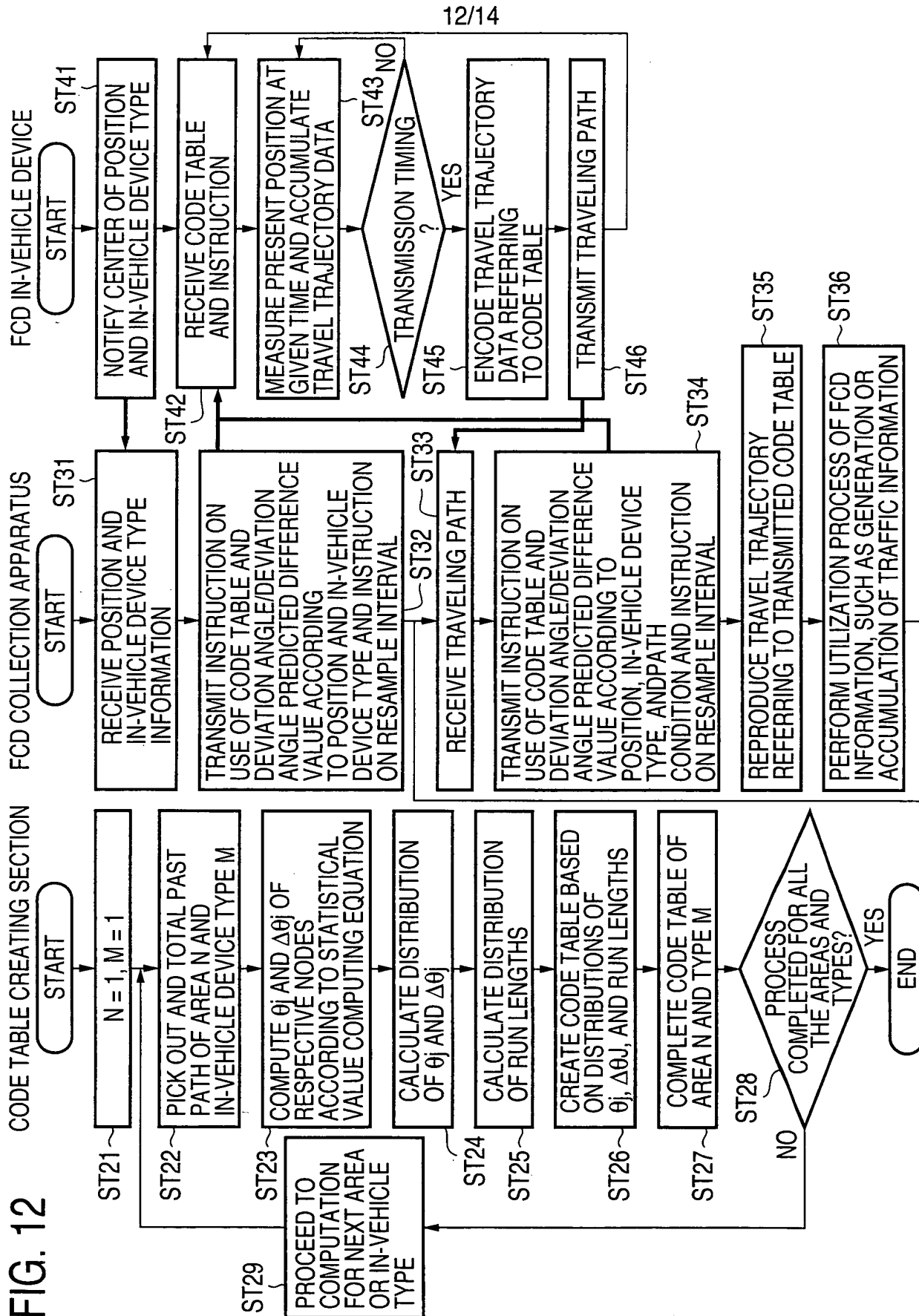
FIG. 10



11/14

FIG. 11





13/14

FIG. 13A

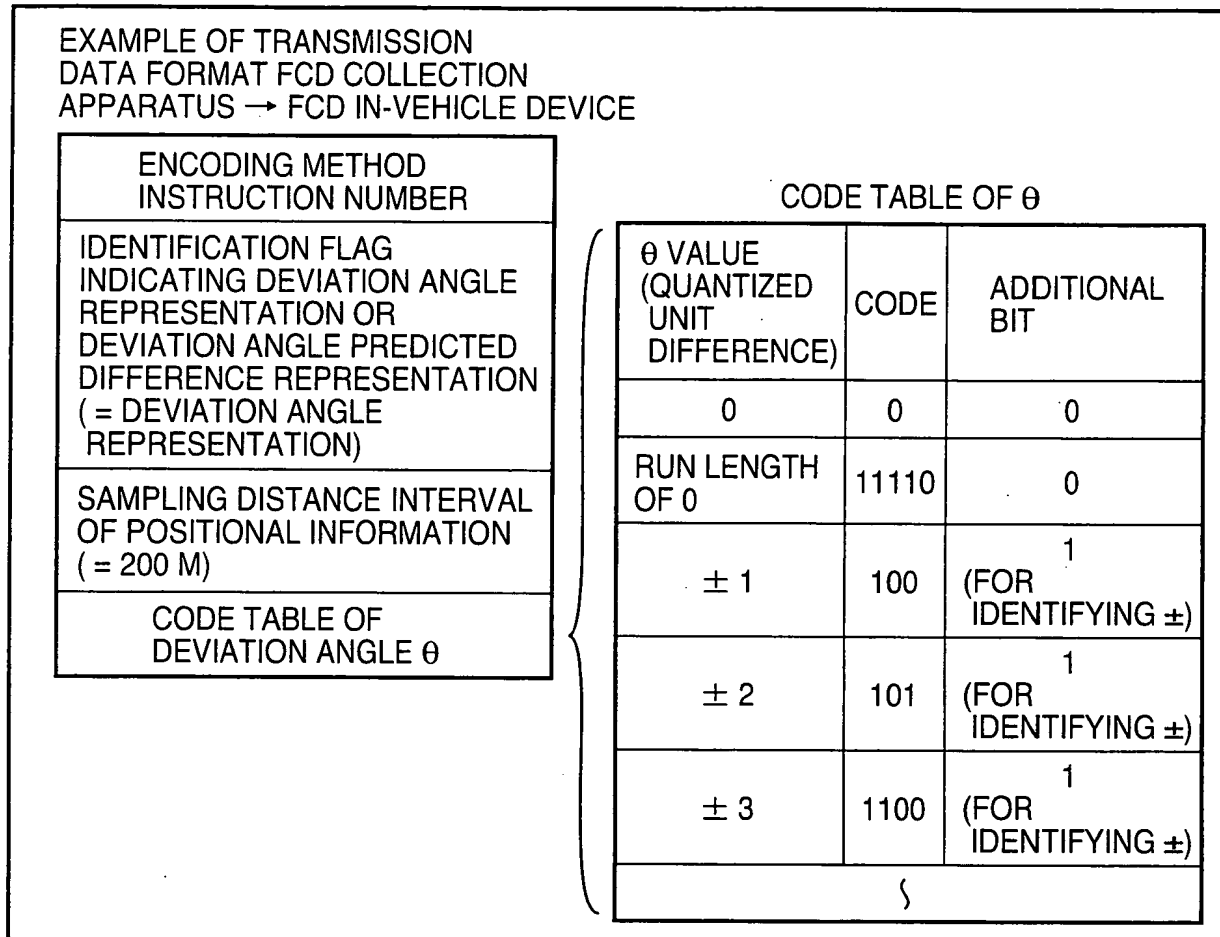


FIG. 13B

FCD IN-VEHICLE DEVICE → FCD COLLECTION

|   |
|---|
| VEHICLE ID INFORMATION  |
| ENCODING METHOD INSTRUCTION NUMBER  |
| NUMBER OF SAMPLING LOCATION POINTS FOR $\theta$   |
| ENCODED DATA OF DEVIATION ANGLE $\theta$ WITH RESPECT<br>TO PREVIOUS SAMPLING LOCATION<br>(BIT STRING IN WHICH $\theta$ IS ENCODED) |
| MEASUREMENT INFORMATION<br>(SPEED ,FUEL CONSUMPTION ,ETC.)  |

14/14

FIG. 14

